



A PUBLICATION OF THE MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT

## VERIZON EARNS MDAQMD'S TOP HONOR



*Pictured left to right are: Mike Page, Director of External Affairs for Verizon; Chuck Story, Manager of Network Reliability of Operations for Verizon; Joe Stodola, Manager of Network Operations, Victorville for Verizon; Robert Leone, MDAQMD Governing Board Chair; Ken Ammerman, Manager of Network Operations for Verizon, Inland and Gateway; Karen Moore, Director of Network Operations for Verizon; and Eldon Heaston, MDAQMD Executive Director.*

The local headquarters of one of the world's leading telecommunications providers was recognized for its pollution prevention efforts, as the Mojave Desert Air Quality Management District presented the 10th Annual Exemplar Awards during its monthly Governing Board meeting on September 25.

Board Chairman Robert Leone and Executive Director Eldon Heaston presented the District's highest honor to Verizon Communications of Victorville, for developing and implementing the first hydrogen fuel cell backup power system to be utilized in San Bernardino County's High Desert.

In response to frequent power outages caused by lightning strikes in the Barstow area, Verizon began field testing two small-scale hydrogen fuel cells in Daggett and Coolwater, near Barstow, in December of 2005. The systems - which automatically kick in when an outage occurs - provide backup power to telecommunications equipment serving residential and business customers throughout the area, including critical circuits for the Daggett airport.

Unlike conventional diesel-powered backup generators, these zero-emissions systems produce only heated air and water byproducts. Consequently, Verizon has realized significant reductions in carbon dioxide and other pollutants from the combined fuel that would be required for technicians to travel to the jobsite to repair an outage, and to tow and operate a conventional portable diesel generator.

Based on the success of their hydrogen fuel cell project, Verizon is now also exploring the use of this technology in providing backup power to wireless base stations.

The Exemplar Awards recognize High Desert entities that demonstrate an exceptional commitment to clean air through the development of voluntary activities/projects that reduce or prevent air pollution within the MDAQMD's jurisdiction, which encompasses San Bernardino County's High Desert and Riverside County's Palo Verde Valley. The Exemplar Awards are presented each September in conjunction with National Pollution Prevention Week.



## You are invited to the **2006 CDAWG CONFERENCE** October 19 & 20, 2006 • Big Bear Lake, California

Mark your calendar now for the California Desert Air Working Group's (CDAWG) 2006 Conference on October 19 & 20, 2006. The Conference will be held at the beautiful Northwoods Resort in Big Bear Lake, California.

**New This Year - Auditor's Certification Workshop** - Attendees to this year's conference can become certified to participate in the District's new military audit program. Even private industry representatives will benefit and learn to enhance compliance with environmental regulations by attending this workshop.

**Why CDAWG?** CDAWG conferences are designed for anyone interested in obtaining technical information or training on important air quality and regulation issues. Whether you are an environmental professional or simply interested in professional development, CDAWG has something for you!

For more information, call (760) 245-1661 x5538 or visit the MDAQMD's website at [www.mdaqmd.ca.gov](http://www.mdaqmd.ca.gov).





*The Desert Air Monitor  
is a publication of the  
Mojave Desert AQMD's*

## **COMMUNITY RELATIONS & EDUCATION OFFICE**

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Victorville, CA 92392-2301  
**(760) 245-1661**

**Eldon Heaston**

*Executive Director*

## **GOVERNING BOARD**

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# CLEAN AIR FAIR TO A "CLEAR" Success



*Dave Bower of High Desert Power Projects explains alternate energy generation to patrons at the Clean Air Fair.*

May 6th was the date of the 10th annual Clean Air Fair, which was held at Victor Valley College's lower campus gym. Hundreds of patrons perused 40 - plus "green" exhibitor booths, ranging from displays from Mitsubishi Cement and High Desert Power Project, to an outside Alternative Fuel Vehicle display, which showcased vehicles from Valley-Hi Toyota, the City of Barstow and the Victor Valley Transit Authority.

This year's environmental extravaganza again featured two shows by acclaimed "eco-magician" Paul Cash, and special appearances by local school dance groups, vocal groups and school bands. Additionally, Clear Channel Radio was on the scene with a live radio remote by The Fox 106.5 from 11:00 a.m. to 1:00 p.m.

After visiting the indoor exhibits, visitors could make their way to the soccer field to participate in the annual "Flight For Life" kite-flying event sponsored by the American Lung Association. The Fair also featured an array of giveaways, a bike raffle and educational kids' activities.

The goal of the Clean Air Fair is to inspire High Desert residents to take an active part in protecting the air and the environment at large. This year's event was co-sponsored by The Fox 106.5, the Mojave Environmental Education Consortium, TXI Riverside Cement, High Desert Power Project, Cemex, Daily Press, Mitsubishi Cement Corp., OMYA (California) Inc., Victor Valley College, AgCon Inc., Elementis Specialties, Hi-Grade Materials Co., IMC Chemicals, KJC Operating Co., Daily Press, The Gas Company, Inland Energy, Inc., Molycorp, AFG Glass, Molded Fiberglass Co./West, Cement Industry Environmental Consortium, Brubaker-Mann Inc., Select Personnel, and Valley-Hi Toyota Honda.



*10th Annual Clean Air Fair sponsors were recognized during the May 22, 2006 MDAQMD Governing Board Meeting. Pictured from left to right are: Governing Board Chair Robert Leone; Manfred Keil of Omya, California; Tony Penna of Inland Energy; Frank Plummer of Cemex; Steve Sipe of Clear Channel; Jackie Thomas of Molded Fiberglass; MDAQMD Executive Director Eldon Heaston; and Desirae Haggard of TXI Riverside Cement and the Cement Industry Environmental Consortium.*



*Paul Cash works his magic with an audience participant during the Clean Air Fair.*





# "Shootin' The Breeze:"

## DISTRICT EMPLOYEE "SHINES" THROUGH SOLAR POWER



*MDAQMD Air Quality Specialist Frank St. Clair*

In July 2006, MDAQMD Air Quality Specialist, Frank St. Clair joined the clean energy revolution by installing a rooftop solar system at his Apple Valley home. The solar array is comprised of 12 panels, and the entire array equates to a 2.4-kilowatt system.

St. Clair is using a grid-tied solar array system, which usually costs between \$8,000 and \$12,000. However, rebates are available to help offset start-up costs. This model allows self-generated electricity to be fed back into the grid and is quite easy to maintain. The main disadvantage of the grid-tie is that when power outages occur due to unforeseen circumstances or rolling blackouts, the user is left without power, since the grid-tie's power is synced with that of the electric company. Nonetheless, this system generates above 75% of the

energy used in an average household for one month, and installation takes about one month to complete. According to St. Clair, "I am enjoying my lower electric bills and am happy to be doing my part for the environment."



*Solar panel array over Frank St. Clair's home.*

## Interns an Integral Part of the MDAQMD Team

The District's Internship Program provides college students who are seeking careers in the environmental field with an opportunity to obtain real world work experience.

Currently, the District has two interns on board: Christina Leon of San Bernardino and Corrie Chitlik of Riverside.

Christina came to the District in January 2006, and is currently a senior at California State University San Bernardino with a major concentration in environmental health. Corrie arrived at the MDAQMD in June 2006, and is a senior at the University of California at Riverside, majoring in environmental science.

Each intern is allotted a total of 1,000 hours apiece, during which they work primarily on emissions inventory and air toxics programs.



*Corrie Chitlik*



*Christina Leon*

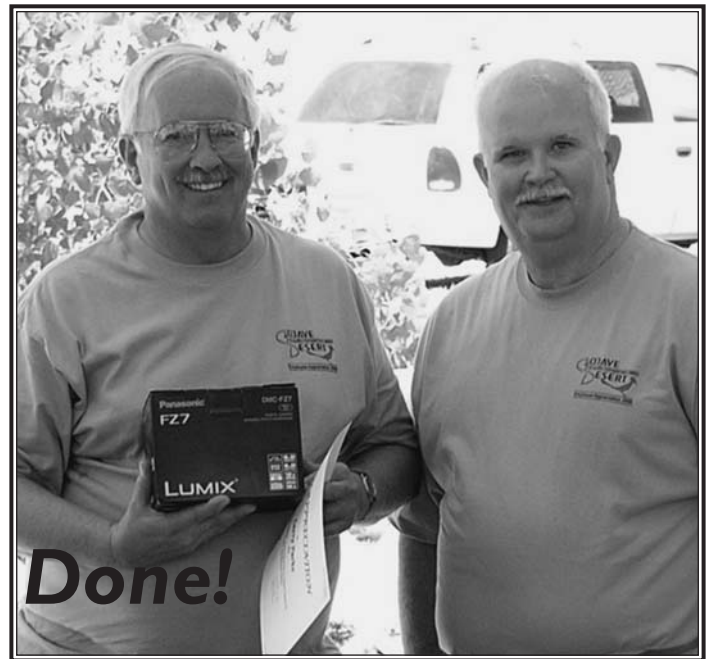


# District Employees Recognized During Annual Picnic

In May of this year, the District held its second annual "Employee Recognition Picnic." The weather was great, the competitions were exciting, and as always the food was scrumptious thanks to the barbeque prowess of Executive Director Eldon Heaston. To top off the day, employees were recognized for their participation in outreach activities and for their years of service to the District.



**Here's to Us!**



☆...and a Job Well Done!

**ONCE A TEAM, ALWAYS A TEAM...**







# Breathe Easier

## THIS SMOG SEASON

This is the time of year when children are outside swimming, playing sports, and just generally having a good time being kids. It is also the time of year when elevated smog levels can adversely affect children, the elderly, and individuals with respiratory and heart disease.

Between May and October - the High Desert's traditional smog season - the sun's heat combines with volatile organic compounds and nitrogen oxides to produce ozone, a major component of smog.

Below are some guidelines that will help everyone breathe easier during smog season:

- When unhealthful Air Quality Index (AQI) levels are forecasted in your area, limit physical exertion outdoors.
- Pay attention to respiratory symptoms such as wheezing, coughing, and difficulty or discomfort during breathing.
- Rotate players in physically exerting games.
- Provide alternative activities that can be played indoors.
- Be vigilant about asthma management, if applicable.

The AQI is a useful tool for all concerned with keeping abreast of daily air quality conditions. For daily air quality forecasts and AQI information, visit the MDAQMD's website at <http://www.mdaqmd.ca.gov/>

## 11th Annual POSTER CONTEST WINNERS RECOGNIZED

On September 19, 2006, the 11th Annual Pollution Prevention Week Poster Contest Winners' Ceremony was held at the District. Once again, a total of 12 winners were chosen this year.

This year's theme was "Breathe Right for the Clean Air Fight." There were approximately 250 entries in the contest, which was sponsored by the MDAQMD, the Mojave Desert Chapter of the Air & Waste Management Association, and the Daily Press. Savings bonds in denominations of \$100, \$75, and \$50 were awarded to 12 winners in three age categories.



Pictured from left to right are: (back row) Alan De Salvo, MDAQMD Supervising Air Quality Engineer; Bryndal Van Wyk, first place, 12-18 year old category; Karissa Hunnicutt, 3rd place, 8 to 11 year old category; Gagreet Sekhon, 2nd place, 12 to 18 year old category; Lauren Weststeyn, 3rd place, 12 to 18 year old category; Trevor Bultzer, 4th place, 12 to 18 year old category; Cheryl Bennett, MDAQMD Community Relations and Education Specialist. First Row from left: Shad Van Wyk, 1st place, 8 to 11 year old category; Abigail Van Wyk, 2nd place, 4 to 7 year old category; Gianna Lopez, 1st place, 4 to 7 year old category; and Lorenzo Lopez, 2nd place, 8 to 11 year old category.



# MEEC Corner



## MEEC Sponsoring Partners      Years of 2006-2007      Sponsorship

ACE Cogeneration	2
City of Adelanto	3
AFG Industries	5
A&WMA (Mojave Desert Chapter)	5
Antelope Valley AQMD	2
Antelope Valley Press	2
Town of Apple Valley	4
City of Barstow	3
Boeing	2
California Portland Cement	1
Cement Industry Environmental Consortium	6
Cemex	2
Daily Press	5
Department of the Army & Ft. Irwin	4
Desert Community Bank	2
Edwards Air Force Base	2
The Gas Co.	3
City of Hesperia	6
High Desert Power Project	4
Inland Energy, Inc	3
L.A. County Sanitation District	1
City of Lancaster	2
Lockheed Martin Aeronautics	2
Mitsubishi Cement Corporation	6
Mojave Desert AQMD	6
Mojave Water Agency	6
Molycorp	3
City of Needles	1
Omya California, Inc	2
City of Palmdale	2
San Bernardino County Fire Department	4
Searles Valley Minerals	3
Southern California Edison	4
Southwest Gas	1
TXI Riverside Cement	6
Victor Valley Transit Authority	4
Victor Valley Wastewater Reclamation	2
City of Victorville	4

## MEEC Supporters:

American Lung Association/Inland Counties, Bureau of Land Management, Barstow Desert Discovery Center, Lewis Center for Educational Research, Mojave Desert Resource Conservation District, Sierra Club/Mojave Chapter, Southwest Gas Corporation, UC Agriculture & Natural Resource Coop. Ext., Victor Valley College, Women In Mining.

*Visit [www.meeconline.com](http://www.meeconline.com) to find out about environmental education teacher workshops upcoming special events, and grant opportunities for educators!*

*Our Stakeholders are the  
wind beneath our wings. We  
appreciate each of you.  
Thank You!*

## TEACHER WORKSHOP ALERT!

On November 1st, Lockheed Martin Aeronautics will host a teacher workshop on illegal dumping. The workshop will be held from 4-7 PM in Palmdale.

**For more information, please call  
the CRE department at  
(760) 245-1661 x6101**

*If you are an educator or a business representative who would like to know more about the MEEC program, please call the Community Relations and Education Office of the Mojave Desert AQMD at:*

**760-245-1661**

*We welcome your participation!*



# STUDENTS GET "All Charged Up"

## ABOUT ELECTRICITY



The High Desert Power Project and MEEC joined forces to help students understand the power of energy through an essay contest held in April. The topic of the contest was "All Charged Up." Over 200 essays were submitted in four categories: Grades K-2, 3-5, 6-8, and 9-12. Each 1st place recipient received \$50, 2nd place received \$25, and 3rd place received \$15, plus a Certificate of Achievement. All 12 winners read their essays during a presentation held at the power plant on April 28th, and were then treated to a tour of the plant for their friends and families.

*The following are three of the winning essays:*

### **Matt Brislin - Grade 10 - Yucca Valley High School - First Place**

In the California desert it is important for everyone to conserve energy. Reasons to conserve energy are both practical and personal. It is practical to conserve energy for the cost. The average household in the desert experiences energy costs that will rise steadily each year. This rise in cost for energy dips into funds that a family uses for necessities in their daily lives. Not only families experience hardships from the cost of energy; senior citizens and the disabled on fixed incomes experience these costs. The utility companies offer discounts for the seniors and the disabled but that is not enough; their incomes do not rise with all the other costs they experience each year.

In the near future, Global Warming will be bringing unpredictable weather, along with that, unpredictable costs for the energy we need to survive. The new energy saving devices on the market can conserve valuable energy. These devices are too expensive to purchase and install for the average family and the person on a fixed income. With the growth that this area is experiencing, the new and remodeled homes need to be constructed with energy conservation as their goal.

On a personal basis, we need to convert existing homes and buildings to be energy efficient. Many people may resist these changes because of the cost. This resistance can be overcome with a campaign to make people aware of low cost and practical devices they can use to reach this goal.

### **Lindsey Lopez - Grade 7 - Ranchero Middle School - First Place**

People, companies, stores, etc. can invest in the future by saving electricity today. Conservation today means a happier, brighter future for tomorrow and upcoming generations. Wasting energy is a senseless, inconsiderate and selfish act towards the future. One's use of energy should be limited to the necessary demands of living in today's world. There are many ways that people can conserve energy and do their part to meet today's electrical needs and potential needs of the future.

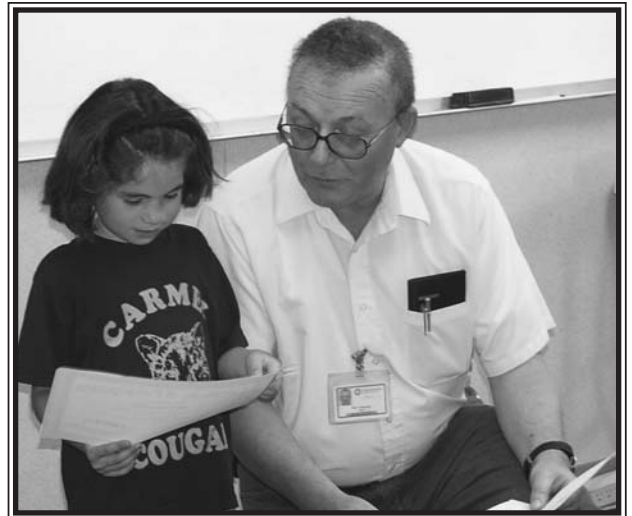
People can turn off extra lights around the house. Unused appliances like electric clocks, VCRs, extra refrigerators in the garage, and computers should be turned off, people can use appliances during the time of day that is outside of peak hours of electrical consumption. Businesses can reduce their air conditions demands when their business is closed. Homeowners can buy appliances that are highly energy efficient. People can wash dishes by hand instead of using a dishwasher. People can increase their physical activities by walking instead of driving, by playing sports instead of watching YTV, and playing with their pets instead of playing hours of video games.

In conclusion, if society would do its part in energy conservation we could avoid mandatory blackouts by energy companies. Places such as hospitals, grocery stores, airports, and fire stations wouldn't be jeopardized for the good of all people. People can spend quality time with their pets and become healthier people with little more effort and little less electricity. Everyone plays an important part in energy conservation.

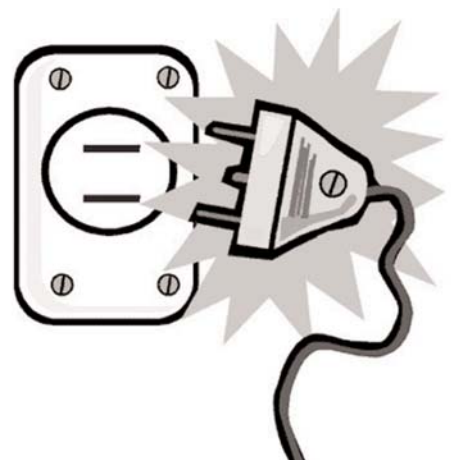


### **April Harrison - Grade 2 - Carmel Elementary School - 3rd Place**

We depend on electricity in our lives. One thing that is very important in our lives is lights. The lights help us see at night. There are also other important things in our lives that use electricity. Refrigerators are another important thing in our lives. The refrigerator keeps our food cold or frozen. The hospital also uses electricity too. They use it to save badly injured people. Sometimes people use electricity for entertainment. They entertain themselves with T.V., video games, VCRs, ipods, scooters and dvd players. Electricity is very important.



*Dave Boward of the High Desert Power Project presents April Harrison with a check and certificate for her award-winning essay during presentation ceremonies.*



*Tony Penna and Dave Boward of the High Desert Power Project play MEEC's "Conc-Earth-Tration" card game with two contest essay winners on April 28th.*



# WORKSHOP: A Breath of Fresh Air for EDUCATORS

On August 30, 2006 MEEC, the Mojave Desert Chapter of the Air and Waste Management Association (AWMA) and the MDAQMD co-sponsored a teacher workshop at the District's offices entitled "Let's Learn About Air Quality." Attendees participated in various hands-on activities, toured the District's Air Monitoring station, and received free standards-based grade 6 to 8 curriculum, courtesy of AWMA.



*Workshop participants view a topographical map of the MDAQMD's jurisdiction to obtain a clearer understanding of the movement of air masses in the Mojave Desert.*



*A teacher measures and records rising temperatures during an experiment on the greenhouse effect.*



## SALUTE TO YOUTH: A CAREER FAIR EXTRAVAGANZA

On September 15, 2006, over 2,500 students from Antelope Valley high schools overflowed with enthusiasm during the 15th Annual Salute To Youth Career Connection held at Northrop Grumman in Palmdale. MEEC participated by manning an informational booth for students and teachers, while sharing the "Conc-Earth-Tration" game developed by MEEC with visitors. Other participants included Lockheed Martin, Antelope Valley AQMD, Edwards AFB, L.A. County Sanitation Districts, Boeing, all branches of the military, as well as many others. The event was a huge success.



*CRE Specialist Cheryl Bennett distributed educational materials to teachers and students during the 15th Annual Salute To Youth Event.*



*A pilot from Northrop Grumman demonstrates aeronautic technology through the use of a flight simulator during the September 15th event.*



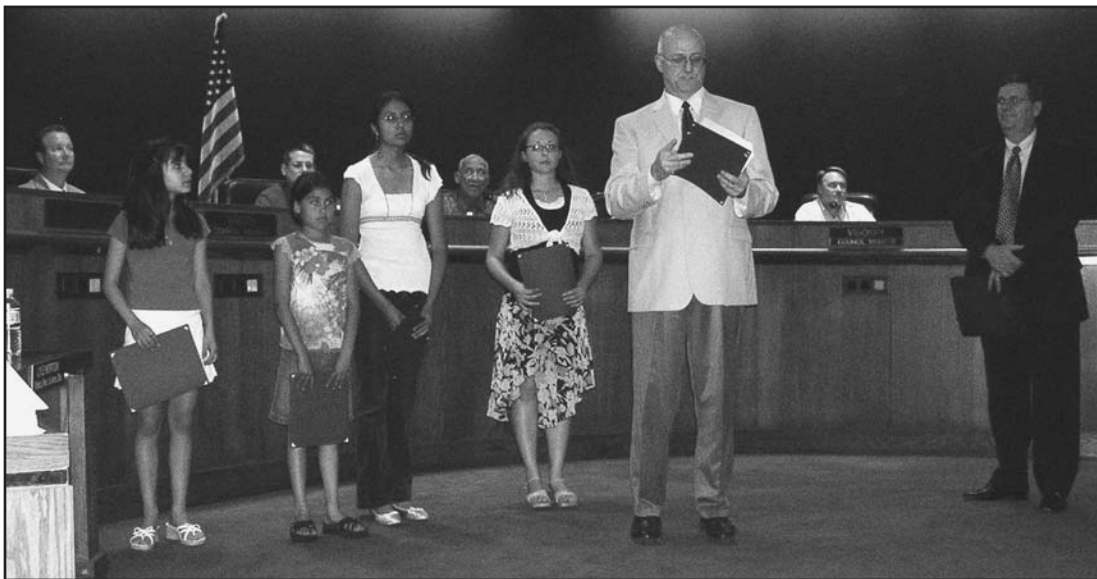
# MEEC Helps Lancaster Celebrate National Public Works Week

MEEC joined forces with the City of Lancaster to celebrate "National Public Works Week 2006" between May 21 and 27. In observance of Public Works Week, the City invited Antelope Valley students to participate in a billboard design competition, along with an essay contest which was co-sponsored by MEEC.

The billboard contest was open to students in grades K-5. The winner, Alicia Reyna, was a third grader from Vista San Gabriel School. Her poster -which emphasized water conservation - was featured on three billboards displayed throughout the City of Lancaster. Alicia and two other finalists, Molly McGregor of Tierra Bonita North and Shahida Karimi of Monte Vista, were awarded pizza parties for their classrooms.

Two essay contest winners were selected from a local middle school and high school. Arianna Chiriff of Cactus Middle School was awarded an iPod, and Anika Singh of Highland High School was the proud winner of a laptop computer.

This is the first time that the City of Lancaster has partnered with local schools to commemorate Public Works Week. Judging by the tremendous response from local students, it will not be the last!



*Pictured left to right are Arianna Chiriff of Cactus Middle School, Alicia Reyna of Vista San Gabriel School, Anika Singh of Highland High School, high school finalist Lindsay Sterk, Steve Dassler/City Engineer, and James Williams/Public Works Director. Essay contest winners enjoyed their 'moment in time' as Dassler presented them each with a certificate of recognition during the May 23rd Lancaster City Council meeting.*



## Hi-DEPPA EDUCATOR OUTREACH

*MEEC Coordinator Susie Myrick (at left) participated in the 2006 Hi-DEPPA teacher outreach event held at the San Bernardino Fairgrounds on September 13, 2006. Over 1,500 educators from throughout the High Desert attended the annual event.*



# SCE Hosts Desalination Plant Tour on Catalina Island

May 11th was a special day for a select group of High Desert teachers and students as they toured the Southern California Edison (SCE) desalination plant located on Catalina Island. Six 2005 MEEC Students of the Year, the 2005 MEEC Teacher of the Year, and the two Teachers of Excellence were invited to partake in this unique environmental outing.

Attendees first toured the desalination plant, and learned that SCE is not only responsible for all of the electricity to the island, but for its water and gas as well. The group also visited the Casino Ballroom and Theatre, took a bus tour of the island, and finished the day with some souvenir shopping in the town of Avalon.

SCE hosted a truly memorable day on Catalina Island, and MEEC is grateful to SCE for sponsoring the program.



*Participants stop for a photo op after a full day of activities on the Catalina Island tour provided by SCE and MEEC on May 11th.*



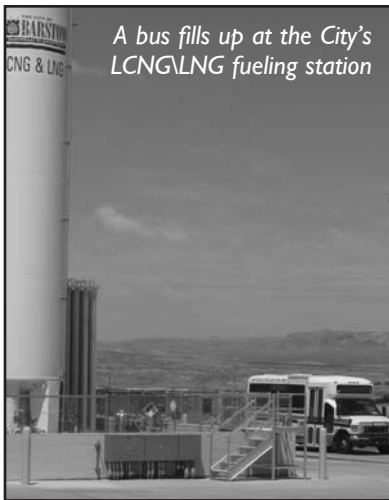
*Attendees gather around tour guides at the SCE Pebble Beach Operating Station on Catalina Island.*

## Antelope Valley Board of Trade Hosts MEEC

On July 25th, MEEC was invited to address the Antelope Valley Board of Trade about the benefits of MEEC to both educators and sponsors. MDAQMD CRE Specialist Cheryl Bennett (second from left) spoke at the luncheon, in conjunction with Bob Wood, Chief of Environmental Management of Edwards Air Force Base (third from left) and Michael Haro, Manager of Environmental Resources (far left) of Lockheed Martin Aeronautics.







A bus fills up at the City's LCNG/LNG fueling station

# CITY OF BARSTOW TAKES THE LEAD ON ALTERNATIVE FUELS

## *City Signs Memorandum of Understanding with Ultra-Clean Fuel Provider*

Setting an example for other municipalities to follow, the City of Barstow has signed a Memorandum of Understanding with Hythane Company, LLC stating its intention to explore the use of Hythane® - a fuel blend consisting of 20% hydrogen and 80% natural gas - as a vehicle fuel for the city's fleet and any other interested users of the City's public access alternative fueling station.

Vehicles using Hythane® fuel enjoy even greater emission reductions than their already low-emission natural gas counterparts. This is the first time in the City's history that it has entered into an agreement with an alternative fuel technology provider.

"With our signed Memorandum of Understanding with the Hythane Company, the City of Barstow has propelled itself into the fast lane of the Hydrogen Highway," said Barstow Mayor

Lawrence Dale. "With more than 60 million travelers per year driving through our city, we are proud to be an early adapter of this technology that provides a clean energy resource," added Dale.

The MDAQMD has a regional plan to encourage all High Desert cities to move forward with alternative fuel projects. In 1999, the MDAQMD started the ball rolling by providing the initial funding for Barstow's liquefied natural gas (LNG) and liquefied to compressed natural gas (LCNG) station.

The proposed Hythane® System will convert the existing natural gas fueling station in Barstow, into an "Energy Station" offering three types of clean fuel (natural gas, hydrogen and Hythane®) and integrate Hythane® into the existing natural gas vehicle fleet.

Due to fuel costs and a lack of infrastructure, it is currently not feasible to deploy pure hydrogen technology. However, the creators of Hythane® technology believe that their fuel is an integral step toward the goal of increasing the use of hydrogen as a vehicle fuel. "We are building a transitional infrastructure," said Roger Marmaro, Hythane Company President and co-founder. "Hythane® offers an attractive alternative and the best part is that it is ready today."



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